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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,134	09/08/2000	Tae In Yoon	HI-014	3539

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EXAMINER
GAUTHIER, GERALD

ART UNIT	PAPER NUMBER
2645	14

DATE MAILED: 09/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/658,134	YOON, TAE IN
	Examiner	Art Unit
	Gerald Gauthier	2645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 19-34* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16 and 19-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____ .

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)		4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .		6) ☐ Other: .

U.S. Patent and Trademark Office

PTO-326 (Rev. 04-01)   Office Action Summary   Part of Paper No. 14

DETAILED ACTION

Claim Objections

1.   **Claims 20-22** are objected to because of the following informalities: **claims 20-**

22 are depended on an improper claim. Correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   **Claims 32 and 34** are rejected under 35 U.S.C. 102(b) as being anticipated by

Matern et al. (US 5,592,473).

Regarding **claim 32**, Matern discloses a private branch exchange system

(column 1, lines 11-14), (which reads on claimed "a voice mail service for a private

switching system"), comprising:

means (30 on FIG. 1) setting a subscriber's message (column 11, line 62 "voice

mail messages") in memory (column 11, line 58 to column 12, line 4) [The voice mail

messages are recorded in the storage means];

means (column 14, line 30 "detector means") automatically determining a

communication state of the subscriber (column 14, line 28 "a signal") in response to an

incoming communication (column 14, lines 29-40) [The detector means supply a signal to the control means and the voice mail system is actuated];

means (12 on FIG. 6) transferring the incoming communication to a system matching section (column 14, lines 29-44) [The control means uses the extension number supplied to cause the switching means to connect the incoming cal];

means (30 on FIG. 4) storing the subscriber's message in the system matching section, wherein the system matching section interface all information in relation to a call and management of a call (column 15, line 30 "data supplied by the incoming call") and performs interfacing for communication between a control section and the private switching system (column 15, lines 22-33) [The control means directs the call to the voice mail system and data supplied by the incoming call is stored into storage means];

means providing guide service (column 12, line 40 "music on hold feature") to a control section (column 12, lines 37-42) [The control means controlled all the features provided by the system];

means accessing data of the subscriber in the memory by the control section (column 15, lines 22-25) [The control means evaluate the data supplied by the subscriber stored in the storage means];

means (12 on FIG. 4) providing the data and a control signal (column 10, line 31 "tone generating process") to a processor (column 10, lines 29-36) [The microprocessor is programmed to implement an efficient tone generating process]; and

outputting the subscriber's message (column 15, lines 25-33) [The control means transmits the message to the subscriber].

Regarding **claim 34**, Matern discloses an interface section to interface with the

private switching system (column 14, lines 29-44);

a buffer to store data transmitted to and received from the private switching

system in a prescribed protocol (column 12, lines 11-19); and

a memory to store call-related messages and data transmitted or received

between the private switching system and the control circuit (column 7, lines 9-26).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1, 4-5, 13, 15, 21-22, 25 and 27-28** are rejected under 35 U.S.C. 103(a)

as being unpatentable over Matern in view of Schouhamer Immink et al. (US

4,593,395).

Regarding **claim 1**, Matern discloses a private branch exchange system (column

1, lines 11-14), (which reads on claimed "a voice mail service system for a private

switching system"), comprising:

a system matching circuit (201 on FIG. 6) and a system matching section (12 on

FIG. 6) configured to couple to a private switching system (14 on FIG. 1), so as to

interface all information in relation to a call and a management of the call (column 15,

line 30 "data supplied by the incoming call") and perform interfacing for communication

between a control section and the private switching system (column 15, lines 22-33)

[The control means directs the call to the voice mail system and data supplied by the

incoming call is stored into storage means];

a voice data memory (30 on FIG. 4) to provide a voice mail function (column 12,

line 11 "voice mail"), and to store voice guide information in an address sector (column

12, lines 15 "dedicated voice time slots") of a corresponding channel (column 12, lines

11-19) [The voice guide information transmitted with the message are stored in the

primary storage device and the compressed voice data is stored in a digital secondary

storage];

a voice and signal processor (50 on FIG. 6) to store voice data (column 10, line

20 "data") of the extension subscriber in the voice data memory and retrieve it so that

the voice data can be transmitted (column 10, lines 20-29) [The microprocessor

accesses and controls the storage means to store the data values];

a communication controller (12 on FIG. 4) to manage a state of each channel

matching (column 9, line 14 "a desired time slot") with the private switching system

(column 9, lines 9-15), wherein the communication controller automatically determines a

busy or nonresponsive state of the subscriber in response to an incoming

communication from a terminal (column 16, lines 36-44)[The control means determines

after a predetermined amount of time sends the caller a message of the status of the

call]; and

a control circuit (12 on FIG. 4) to match with the private switching system to

control an operation for maintaining the voice mail function (column 7, lines 9-26) [The

control means is able to control the operation of the PBX on various functions such a

voice mail].

Matern fails to disclose a process channel errors.

However, Schouhamer teaches a process channel errors, and maintain and

repair the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the

invention was made to use the error correction method for the transfer of word-wise

arranged data of Schouhammer in the control means peripheral of Matern.

The modification of the invention would offer the capability of the error correction

method for the transfer of word-wise arranged data such as the system would combine

the redundancy introduced into data transfer with the error correction.

Regarding **claim 4**, Matern discloses an interface section to interface with the

private switching system (54 on FIG. 6);

a buffer to store data transmitted to and received from the private switching

system in a prescribed protocol (62 on FIG. 6); and

a memory to store call-related messages and data transmitted or received

between the private switching system and the control circuit (64 on FIG.6).

Regarding **claim 5**, Matern discloses wherein the voice data memory has a prescribed storage capacity, which is expandable (column 12, lines 4-19).

Regarding **claim 13**, Matern discloses wherein the voice memory provides the voice mail to each extension subscriber of the private switching system and stores voice guide information of the extension subscriber, and wherein the voice and signal processor stores voice data of the extension subscriber to transmit to an incoming caller (column 5, lines 2-15).

Regarding **claim 15**, Matern discloses wherein the private switching system is a system of higher rank than the voice mail system (column 6, lines 29-37).

Regarding **claim 21**, Matern discloses wherein the subscriber's message is compressed prior to being set in the data memory, and is decompressed prior to transmitting to the terminal (column 11, lines 32-57).

Regarding **claim 22**, Matern discloses wherein the network is a private switching system and the message is a voice message (column 12, lines 1-19).

Regarding **claim 25**, Matern discloses a private branch exchange system (column 1, lines 11-14), (which reads on claimed "a private switching system"), comprising:

means automatically determining a communication state (column 14, line 28 "a signal") of a subscriber in response to an incoming communication (column 14, lines 29-40) [The detector means supply a signal to the control means and the voice mail system is actuated];

means coupling call information and management of call information to a switching system (column 14, lines 29-44) [The control means uses the extension number supplied to cause the switching means to connect the incoming cal];

means (30 on FIG. 4) storing voice mail information (column 12, line 11 "voice mail"), and voice guide information (column 12, line 13 "storage means") in a memory (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

means (30 on FIG. 1) storing data relating to a subscriber in the memory (column 15, lines 22-33) [The control means directs the call to the voice mail system and data supplied by the incoming call is stored into storage means];

means (12 on FIG. 6) retrieving data relating to the subscriber and transmitting the retrieve data (column 15, lines 22-25) [The control means evaluate the data supplied by the subscriber stored in the storage means];

means (12 on FIG. 4) managing a state of each channel matching (column 9, line 14 "a desired time slot") with the switching system (column 9, lines 9-15) [The control means cause data to be connected to a desired time slot]; and

means controlling and maintaining operation between the switching system and

the voice mail service (column 7, lines 9-26) [The control means is able to control the

operation of the PBX and the voice mail service] and a system matching section which

interfaces all information in relation to a call and management of a call and performs

interfacing for communication between a control section and the private switching

system (column 15, lines 22-25) [The control means evaluate the data supplied by the

subscriber stored in the storage means].

Matern fails to disclose means processing channel errors.

However, Schouhamer teaches means process channel errors, and maintaining

and repairing the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the

invention was made to use the error correction method for the transfer of word-wise

arranged data of Schouhammer in the control means peripheral of Matern.

The modification of the invention would offer the capability of the error correction

method for the transfer of word-wise arranged data such as the system would combine

the redundancy introduced into data transfer with the error correction.

Regarding **claim 27**, Matern discloses the memory is a common memory

(column 12, lines 4-19).

Regarding **claim 28**, Matern discloses the voice data memory is configured to be

expanded by a unit of memory bank (column 12, lines 4-19).

6.   **Claims 2-3, 12, 14, 20 and 33** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Matern in view of Schouhamer and in further view of Hersh et al. (US

6,205,206).

Regarding **claim 2**, Hersh teaches the voice mail service system is a line card,

configured to couple to the private switching system (column 2, lines 45-53).

Regarding **claim 3**, Hersh teaches the line card accommodates a prescribed

number of extension subscribers, and wherein an increase in a number of line cards

can increase a number of extension subscribers capable of being served with the voice

mail service (column 6, lines 41-50).

Regarding **claim 12**, Hersh teaches a Dual Tone Multi-Frequency (DTMF)

processor to process and analyze DTMF signals received from a terminal of the

extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a high speed RAM to store an algorithm for an operation of the DTMF processor

(column 3, lines 30-35);

a buffer to temporarily store analyzed DTMF signals (column 3, lines 30-35);

a dual port RAM to prevent a collision between the analyzed DTMF signals and

the DTMF signals (column 3, lines 30-35); and

an interface circuit coupled to the DTMF processor section and the dual port

RAM, to arbitrate and control the occupation of a system interface bus (column 5, line

65 to column 6, line 40).

Regarding **claim 14**, Matern discloses the connection to the private switching

system is over a parallel bus (54 on FIG. 6).

Regarding **claim 20**, Hersh teaches wherein the data memory, the system

matching section, the control section and the signal processor comprise a line card for

providing the message service (column 2, lines 45-53).

Regarding **claim 33**, Matern discloses the connection to the private switching

system is over a serial bus (column 6, lines 29-37).

7.   **Claims 6, 7, 9, 11, 16, 23 and 29-30** are rejected under 35 U.S.C. 103(a) as

being unpatentable over Matern in view of Schouhamer and in further view of LaRocca

(US 6,069,888).

Regarding **claim 6**, LaRocca teaches a vocoder coupled to the private switching

system through a PCM highway and a system interface bus, configured to compress

and modulate PCM voice signals (column 3, lines 49-58);

a first high speed RAM to store an algorithm for a compression-modulation and a

demodulation of the PCM voice signals by the vocoder (column 4, lines 25-37);

a first buffer to store the PCM voice signal compressed and modulated by the

vocoder and the PCM voice signal outputted (column 4, lines 25-37);

a first dual port RAM to maintain a smooth transmission and a smooth reception

of the compressed and modulated PCM voice signal, to be stored in the voice data

memory and the PCM voice signal outputted (column 4, lines 25-37); and

a first interface circuit coupled to the vocoder and the first dual port RAM, so as

to arbitrate and control occupations of system interface bus by the vocoder and the first

dual port RAM (column 4, lines 38-47).

Regarding **claim 7**, LaRocca teaches a Dual Tone Multi-Frequency (DTMF)

processor to process and analyze DTMF signals received from a terminal of the

extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a second high speed RAM to store an algorithm for an operation of the

DTMF processor (column 3, lines 30-35);

a second buffer to temporarily store analyzed DTMF signals (column 5, line 65 to

column 6, line 40);

a second dual port RAM to prevent a collision between the analyzed DTMF

signals and the DTMF signals (column 3, lines 30-35); and

a second interface circuit coupled to the DTMF processor section and the second dual port RAM, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

Regarding **claims 9 and 11**, LaRocca teaches data transmission/reception between the vocoder and the DTMF processor is carried out through the PCM highway, and is controlled by the control circuit (column 3, lines 49-58).

Regarding **claim 29**, LaRocca teaches a vocoder coupled to the private switching system through a communication link and a system interface bus, configured to compress and modulate voice signals carried over the communication link (column 3, lines 49-58);

a storage device to store an algorithm for a compression-modulation and a demodulation of the voice signals by the vocoder (column 4, lines 25-37);

a first buffer to store the voice signal compressed and modulated by the vocoder and the voice signal outputted (column 4, lines 25-37);

a first multiple access storage device to maintain a smooth transmission and a smooth reception of the compressed and modulated voice signal, to be stored in the voice data memory and the voice signal outputted (column 4, lines 25-37); and

a first interface circuit coupled to the vocoder and the first multiple access storage device, so as to arbitrate and control occupations of system interface bus by the vocoder and the first multiple access storage device (column 4, lines 38-47).

Regarding **claim 30**, LaRocca teaches a Dual Tone Multi-Frequency (DTMF) processor to process and analyze DTMF signals received from a terminal of the extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a second storage device to store an algorithm for an operation of the DTMF processor (column 3, lines 30-35);

a second buffer to temporarily store analyzed DTMF signals (column 5, line 65 to column 6, line 40);

a second multiple access storage device to prevent a collision between the analyzed DTMF signals and the DTMF signals (column 3, lines 30-35); and

a second interface circuit coupled to the DTMF processor section and the second multiple access storage device, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

Regarding **claim 16**, LaRocca teaches the vocoder is coupled to the private switching network over a PCM highway and a system interface bus, and wherein the PCM voice signals are from an extension subscriber and are received over the PCM highway from the private switching system and are arranged for a recording in order to provide the voice mail service, the vocoder demodulating the compressed and modulated PCM voice signals to transmit the PCM voice signals to a caller side having applied an incoming call (column 3, lines 49-58).

Regarding **claim 23**, LaRocca teaches wherein the signal processor includes a voice processor and the voice message is transmitted to the terminal through a vocoder (column 3, lines 49-58).

8.   **Claims 8, 10, 24 and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer, in view of LaRocca and in further view Hersh.

Regarding **claims 8, 10 and 31**, Hersh discloses the first and the second dual port RAMs respectively comprise banks of memory, each of which store voice data to provide the voice mail service and a registration for the voice mail service (column 3, lines 37-66).

Regarding **claim 24**, Hersh discloses wherein the voice message service is provided to the private switching through a line card of the private switching system (column 2, lines 30-42).

9.   **Claims 19 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Matern in view of Schouhamer, in view of Brunson (US 5,329,579).

Regarding **claims 19 and 26**, Brunson teaches the voice and signal processor

compresses the voice data prior to it being stored, and decompresses the compressed

voice data prior to it being transmitted (column 8, lines 34-42).

Response to Arguments

10.   Applicant's arguments with respect to **claims 1-16 and 19-34** have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Locke is cited for voice/data transfer method (FIG. 1).

Shaffer is cited for system and method for improved mail-networking (FIG. 1).
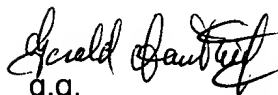

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Gerald Gauthier whose telephone number is (703) 305-

0981. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone numbers for

the organization where this application or proceeding is assigned are (703) 872-9314 for

regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

4750.

g.g.
September 5, 2003

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600